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PATENT SPECIFICATION



Application Date: Jan. 8, 1932. No. 595 / 32. 390,586

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PROVISIONAL SPECIFICATION.

Improvements in Paper Sheet and the like Joining Machines.

We, WILLIAM FLETCHER, of 10, Tachbrook Street, London, S.W. 1, a British subject, and ARPAD FUCHS, of 6, Newton Grove, Bedford Park, London, W. 4, an Austrian Citizen, do hereby declare the nature of this invention to be as follows:—

This invention relates to paper sheet and the like joining machines of the kind 10 wherein the sheets to be joined are passed between two rollers, formed with projections which co-act to join the sheets along adjoining edges. A certain resiliency is necessary between the rollers 15 to accommodate irregularities and various thicknesses and numbers of sheets which may be passed through the rollers, and the chief object of the present invention is to provide an improved resilient mounting 20 for one roller such mounting being strong and efficient in action and readily and cheaply replaced.

With the above and other objects in view, there is provided a machine of the 25 kind specified, according to this invention, in which one of the co-acting rollers is displaceably positioned against the complementary roller by means of a coil spring or springs or buffer of resilient material, 30 such for example, as rubber or rubber composition.

In one embodiment of the invention the device comprises a base plate formed integrally with a clamping bracket which 35 may be of T-cross section; the upper portion of said bracket extends vertically down from the front edge of the base plate, the lower portion of the bracket extending horizontally beneath the base 40 plate and terminating in a screw-threaded boss which serves to carry a clamping screw whereby the device may be clamped on a table or other suitable support. A ledge extends upwardly adjacent the front 45 edge of the base plate and serves to support one of the two co-acting rollers, here-

inafter termed the resilient roller, which is resiliently mounted, the other roller, hereinafter termed the fixed roller, which is supported in a fixed mounting, is mounted in bearings located beneath the upper surface of the base plate, the roller extending through an aperture or recess formed between the front edge of the base plate and the said ledge. The fixed roller is secured to a spindle, to which is secured an operating handle. The resilient roller, which is positioned so as to co-act with the fixed roller, is carried in a bearing formed in a cross bar supported at each end on a coil spring or resilient buffer. The coil springs or buffers are threaded over two bolts screwed to and extending vertically upwardly from the said ledge, the said bolts extending respectively through clearance holes in each end of the cross bar which is clamped down on the coil or buffer at each end to the required degree by adjusting the said bolts. Screw threaded studs may be used in place of the bolts, nuts being screwed on the upper ends of the studs to retain the cross bar in position and to obtain the required degree of resilient pressure between the two co-acting rollers.

The point of contact between the two co-acting rollers is located substantially level with the upper surface of the base plate and a guide slot or strip is provided to guide the edge of the sheets of paper or the like to the rollers.

If desired, the projections and complementary recess on the rollers may be in the form of letters or designs whereby the action of passing the sheets through the machine will not only secure the sheets together along one edge, but will also emboss such edge with letters or designs.

Dated this 8th day of January, 1932.
REGINALD W. BARKER & Co.,
Applicants' Agents,
56, Ludgate Hill, London, E.C. 4.

COMPLETE SPECIFICATION.

Improvements in Paper Sheet and the like Joining Machines.

We, WILLIAM FLETCHER, of 10, Tachbrook Street, London, S.W. 1, a British subject, and ARPAD FUCHS, of 6, Newton Grove, Bedford Park, London, W. 4, an Austrian Citizen, do hereby declare the nature of this invention and in what [Price 1/-]

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manier the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to paper sheet 5 or the like joining machines of the kind wherein the sheets or strips to be joined are passed at an adjoining edge between two rollers, resiliently mounted in relation to each other and formed with teeth or 10 projections which co-act to join the paper sheets or the like along adjoining edges. A certain resiliency is necessary between the rollers to accommodate irregularities and various thicknesses and numbers of 15 sheets which may be passed through the rollers, and the chief object of the present invention is to provide an improved resilient mounting for one roller, such mounting being strong and efficient in 20 action and readily and cheaply replaced.

With the above and other objects in view, there is provided, according to this invention, a paper sheet or the like joining machine in which two co-acting rollers, a 25 fixed roller and a displaceable roller, formed with inter-operating teeth, are carried on a frame, characterised in that the displaceable roller, supported on a slideable cross bar, is displaceably positioned in relation to the other roller by means of coil springs or resilient buffers bearing on the cross bar at each end thereof. The frame of the machine may be formed with two bosses on the top 35 surface thereof which serve to support the cross bar which is mounted on two bolts or studs which pass through the coil spring or resilient buffer and a clearance hole in the cross bar at each end thereof.

Conveniently, a boss formed centrally 40 on the undersurface of the cross bar serves as a bearing for a shaft carrying the displaceable roller, the boss extending into a suitably shaped recess in the top surface of the frame.

A machine constructed in accordance with the invention is illustrated in the accompanying drawings, wherein:—

Fig. 1 is a rear elevation of the 50 machine.

Fig. 2 is a front elevation.

Fig. 3 is a side elevation, and

Fig. 4 is a plan.

Referring to the drawings in which like 55 references indicate like parts, two co-acting rollers 1, 2, formed with suitable teeth, are carried on a frame 3; the roller 2, hereinafter termed the fixed roller, is secured to an operating shaft 4 supported in a comparatively long bearing 60 in a boss 5 on the frame; the operating shaft which extends completely through the bearing in the boss has an operating handle 6 secured to the outer end thereof. The handle 6 is prefer-

ably secured to the shaft 5 by means of a screw-thread on the shaft engaging with an internal screw-thread in the handle boss, whereby the handle can be readily removed to facilitate storing and transport of the machine.

The roller 1, hereinafter termed the displaceable roller, is freely mounted on the end of a pin secured in a boss 8 on the undersurface of a cross bar 9, 70 above the fixed roller 2, the two rollers being arranged in a common plane of rotation. The boss 8 conveniently extends into a suitably shaped recess 81 in the top surface of the frame. The cross bar 9 is mounted in position by means of two bolts 10 which pass respectively through passages in resilient buffers 11 and clearance holes in the cross bar at each end thereof and screw into bosses 85 12 on the frame; the cross bar is thus freely slideable on the bolts 10. The undersurface of the heads of the bolts 10, which may be provided with washers 13, bear on the resilient buffers 11 and exert 90 a force through the buffers on the cross bar 9 resiliently to position the displaceable roller 1 against the fixed roller 2. The pressure forcing the displaceable roller 1 into contact with the fixed roller 95 2 may be varied by adjusting the bolts 10.

The resilient buffers 11 may be formed from rubber, rubber composition or other resilient material, and if desired, may be built up from a number of washers of such 100 material. If desired, coil springs may be used in place of the resilient buffers.

The frame 3 is provided with arms 15 which serve to support a table ply 16. The plate being formed adjacent its rear edge 17 with an aperture through which the fixed roller 2 projects to engage the displaceable roller 1. The rear edge of the table plate 16 abuts against the vertical face 18 of a horizontal guide slot 19 110 formed along the length of the rear of the frame. The vertical face 18 of the guide slot positions the edges of the paper sheets to be joined, in correct relation to the co-acting rollers, the rollers being located 115 at a suitable distance in front of the vertical face 18 to give the desired marginal width to the joined edges of the sheets.

The frame 3 is formed integrally with a clamping bracket 21 which may be of 120 T-cross section; the upper portion of said bracket extends vertically downwards, the lower portion of the bracket extending horizontally and centrally beneath the table 16 and terminating in a screw-threaded boss 22 which serves to carry a clamping screw 23 whereby the device may be clamped on a table or other suitable support.

Having now particularly described and 130

ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

5. 1. A paper sheet or the like joining machine in which two co-acting rollers, a fixed roller and a displaceable roller, formed with inter-operating teeth, are carried on a frame characterised in that the 10 displaceable roller, supported on a slideable cross-bar, is displaceably positioned in relation to the other roller by means of coil springs or resilient buffers bearing on the cross bar at each end thereof.

25 2. A paper sheet or the like joining machine, as claimed in Claim 1, in which the frame is formed with two bosses on the top surface thereof which serve to support the cross bar which is mounted

on two bolts which pass through the coil 20* springs or resilient buffers and clearance holes in the cross bar at each end thereof.

3. A paper sheet or the like joining machine, as claimed in Claim 2, in which a boss formed centrally on the undersurface of the cross bar serves as a bearing for a shaft carrying the displaceable roller, the boss extending into a suitably shaped recess on the top surface of the frame.

25 4. A paper sheet or the like joining machine, substantially as described with reference to the accompanying drawings.

Dated this 7th day of July, 1932.

REGINALD W. BARKER & Co.,
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56, Ludgate Hill, London, E.C. 4.

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390.586 COMPLETE SPECIFICATION

SHEET 1

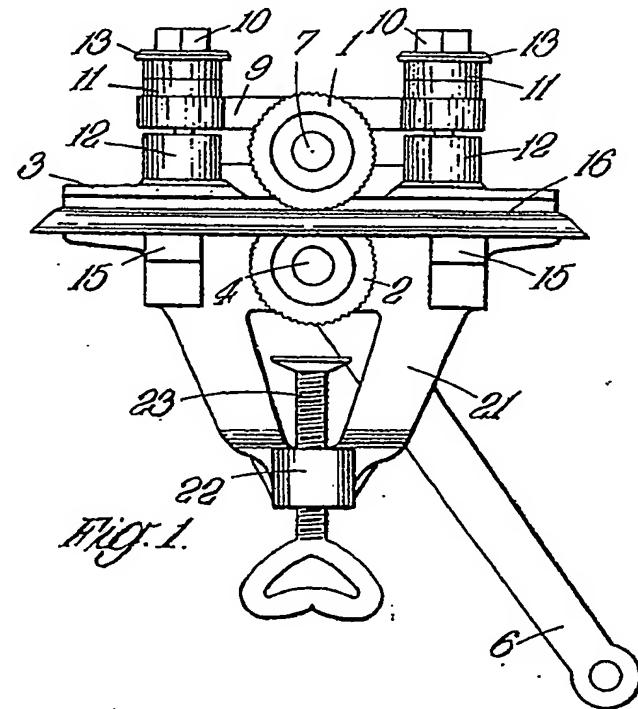
[This Drawing is a reproduction of the Original on a reduced scale.]

FIG. 1.

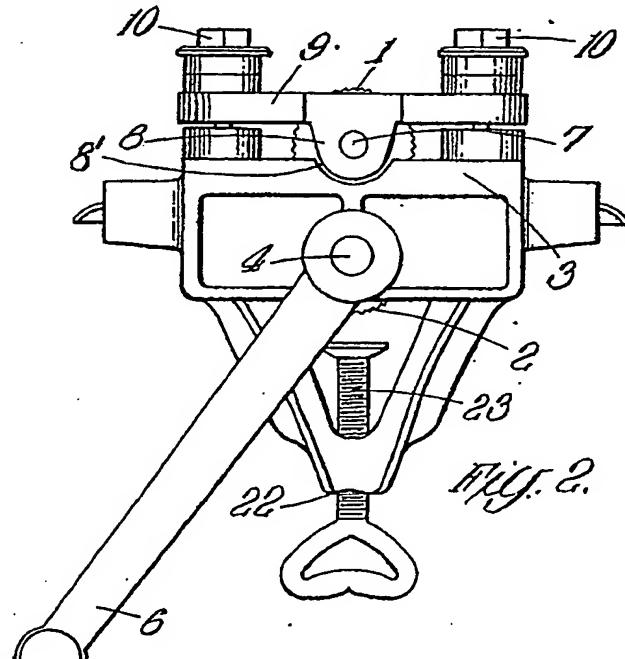


FIG. 2.

2.SHEETS
SHEET 2

